CLAIMS

1) An automatic, mechanical, continuously variable transmission (1) comprising an input shaft (2); a flywheel (10) integral with the input shaft; a drive assembly (5) idle with respect to the input shaft (2) and having a drive pulley (6) defined by a first half-pulley (6a) and a second half-pulley (6b) which define a groove (8) of variable width for a V belt (C); friction clutch means (12) interposed axially between said first half-pulley (6a) and said flywheel (10); a centrifugal actuating assembly (42) comprising a centrifugal actuating device (40) controlling said clutch means (12) and for setting said clutch means (12) to a torque-transmission condition in response to an angular speed value of said input shaft (2) greater than a first threshold value, so as to connect said drive pulley (6) angularly to said flywheel (10), and a speed regulating device (41) for moving said second half-pulley (6b) axially with respect to said first half-pulley (6a) to adjust the width of the groove (8) of the drive pulley (6) in response to variations in the speed of said input shaft (2), said speed regulating device (41) being active above a second threshold value of the angular speed of the input shaft (2) higher than said first threshold value; characterized in that said actuating device (40) comprises push means (54, 61) which exert axial thrust on said first half-pulley (6a) at each speed value of said

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input shaft (2) above said first threshold value.

2) A transmission as claimed in Claim 1, characterized in that said drive assembly (5) comprises a sleeve (15) fitted to said input shaft (2) in axially free manner and in angularly free manner at least in one relative rotation direction; said first half-pulley (6a) being fixed with respect to said sleeve (15); and the second half-pulley (6b) being fitted in sliding manner to said sleeve (15).

3) A transmission as claimed in Claim 1, characterized in that said clutch means (12) comprise a friction disk (24) interposed axially between said first half-pulley (6a) and said flywheel (10).

4) A transmission as claimed in Claim 3, characterized in that said actuating device (40) comprises a number of auxiliary weights (48) rotating integrally with said input shaft (2); said push means (54, 61) being interposed between said auxiliary weights (48) and said sleeve (15) to move said first half-pulley (6a) towards said flywheel (10) and to grip said friction disk (24) between said flywheel (10) and said first half-pulley (6a).

5) A transmission as claimed in Claim 4, characterized by comprising a reaction disk (45) integral with the input shaft (2) and having a conical wall (46); said actuating device (40) comprising a number of centrifugal auxiliary weights (48) cooperating with said conical wall (46); said push means (54, 61) of said

actuating device (40) comprising an actuating ring (54) having a conical surface (56) facing said conical wall (46) of said reaction disk (45); and said auxiliary weights (48) having respective conical face surfaces (51, 53) cooperating respectively with said conical surface (56) of said actuating ring (54) and with said conical wall (46) of said reaction disk (45) to move said actuating ring (54) axially towards said sleeve (15) by virtue of the radial movement of said auxiliary weights (48).

6) A transmission as claimed in Claim 5, characterized in that said actuating device (40) comprises a tubular drive member (61) pushed integrally with said sleeve (15); said actuating ring (54) and said tubular member (61) having respective facing, complementary conical friction surfaces (59, 60).

7) A transmission as claimed in Claim 5, characterized in that said speed regulating device (41) comprises a push disk (65) integral with said second half-pulley (6b) and having a conical wall (67) facing said conical wall (46) of said reaction disk (45); and a number of main weights (68) having respective conical face surfaces (70, 71) cooperating with said conical walls (46, 67) to move said push disk (65) axially towards said flywheel (10) by virtue of the radial movement of said main weights (68).

8) A transmission as claimed in Claim 1, characterized by comprising a torque-sensitive

compensating device (13) acting between said half-pulleys (6a, 6b).

9) A transmission as claimed in Claim 8, characterized in that said second half-pulley (6b) is fitted to said sleeve (15) to slide within limits defined by said compensating device (13).

10) A transmission as claimed in Claim 9, characterized in that said compensating device (13) comprises at least one radial pin (18) integral with said sleeve (15); and at least one corresponding slot (19) formed in a hub of said second half-pulley (6b), or vice versa.

11) A transmission as claimed in Claim 10, characterized in that said slot (19) is defined circumferentially by an axial side (19a) which cooperates with said pin (18) when accelerating, and by a sloping side (19c) which cooperates with said pin (18) when decelerating, to generate additional axial thrust acting between said half-pulleys (6a, 6b) in the axial compression direction of the belt (C).

12) A transmission as claimed in Claim 2, characterized by comprising a free wheel (32) interposed between said input shaft (2) and said sleeve (15).